WHAT IS CLAIMED IS:

1. An integrated circuit, comprising:

a plurality of terminals including at least one output terminal and at least one input terminal; and

a configurable voltage regulator operable in a first mode or a second mode, comprising:

output driver circuitry, having an output coupled to an output terminal;

control circuitry, having at least one input coupled to an input terminal, having an output coupled to the output driver circuitry, and including a plurality of elements;

configuration circuitry, for receiving a configuration signal; and

at least one configuration switch, for selectably coupling elements of the feedback circuitry to the output driver circuitry responsive to control signals from the configuration circuitry.

2. The integrated circuit of claim 1, wherein the configuration circuitry comprises:

a configuration amplifier, having a first input connected to the input terminal, and having a second input connected to a reference voltage, the configuration amplifier having an output coupled to the at least one configuration switch.

3. The integrated circuit of claim 2, wherein the at least one configuration switch has first and second positions;

and wherein the at least one configuration switch is in the first position responsive to a voltage at the input terminal being above the reference voltage, and is in

the second position responsive to a voltage at the input terminal being below the reference voltage.

4. The integrated circuit of claim 1, wherein the configuration circuitry comprises:

a writable configuration register, coupled to the at least one configuration switch, for receiving and storing configuration data indicating the selected mode.

5. The integrated circuit of claim 1, wherein the control circuitry comprises:

an error amplifier having a first input coupled to a first input terminal, having a second input receiving a reference voltage, and having an output;

switching regulator control circuitry, having a first input and having an output;

wherein the at least one configuration switch comprises:

a first configuration switch for connecting the output of the error amplifier to the switching regulator control circuitry in a first position;

a second configuration switch, for connecting the output of the switching regulator control circuitry in a first position;

wherein the first and second configuration switches connect the output of the error amplifier to the output driver circuitry when in a second position;

and wherein the first and second configuration switches switch to the first and second positions responsive to a signal from the configuration circuitry.

6. The integrated circuit of claim 5, wherein the configuration circuitry comprises:

a configuration amplifier, having a first input connected to a second input terminal, and having a second input connected to a fixed voltage, the configuration amplifier having an output coupled to control inputs of the first and second configuration switches so that the first and second configuration switches are in the first and second positions responsive to the output of the configuration amplifier.

7. The integrated circuit of claim 5, wherein the switching regulator control circuitry comprises:

a current limit detect amplifier, having a first input connected to the second input terminal, having a second input coupled to a third input terminal, and having an output;

a switching control amplifier, having a first input connected to the first configuration switch, having a second input connected to the second input terminal, and having an output; and

logic circuitry, having inputs coupled to the outputs of the current limit detect amplifier and the switching control amplifier, and having an output coupled to the second configuration switch.

8. The integrated circuit of claim 7, further comprising:

a voltage source coupled between the third input terminal and the second input of the current limit detect amplifier, for shifting the voltage at the third input terminal by a selected limit voltage.

9. The integrated circuit of claim 7, further comprising:

a one-shot multivibrator, having an input coupled to the output of the switching regulator control circuitry, and having an output coupled to the second configuration switch, for issuing a pulse responsive to a signal from the switching regulator control circuitry.

10. The integrated circuit of claim 9, wherein the one-shot multivibrator is a constant off-time one-shot multivibrator.

11. The integrated circuit of claim 1, further comprising:

functional circuitry, coupled to the voltage regulator.

12. The integrated circuit of claim 1, further comprising:

a second voltage regulator, having an output coupled to a second output terminal, for generating a negative polarity regulated voltage.

13. A method of generating a regulated voltage, comprising the steps of:

configuring a configurable voltage regulator in an integrated circuit into either a linear regulator mode or a switching regulator mode, the configurable voltage regulator comprising output drive circuitry having an output at a drive terminal, and comprising an error amplifier having an input coupled to a sense terminal;

connecting the gate of a transistor to the drive terminal;

in the switching regulator mode:

connecting an external network including an inductor to the transistor, the external network producing the regulated voltage;

connecting the error amplifier of the voltage regulator to the external network, so that the error amplifier receives a voltage corresponding to the regulated voltage;

in the linear regulator mode:

connecting an external network to the transistor, the external network producing the regulated voltage; and

connecting the error amplifier of the voltage regulator to the external network, so that the error amplifier receives a voltage corresponding to the regulated voltage;

responsive to the configuring step configuring the configurable voltage regulator in the linear regulator mode, coupling the output of the error amplifier to the output drive circuitry; and

responsive to the configuring step configuring the configurable voltage regulator in the switching regulator mode:

coupling the output of the error amplifier to switching regulator control circuitry; and

coupling the output of the switching regulator control circuitry to the output drive circuitry.

14. The method of claim 13, wherein the configuring step comprises:

comparing the voltage at a first sense terminal to a fixed voltage;

responsive to the comparing step determining that the voltage at the first sense terminal is in a first relationship relative to the fixed voltage, controlling configuration switches to couple the output of the error amplifier to the output drive circuitry to configure the voltage regulator in the linear regulator mode; and

responsive to the comparing step determining that the voltage at the first sense terminal is in a second relationship relative to the fixed voltage, controlling the configuration switches to couple the output of the error amplifier to the switching regulator control circuitry, and to couple the switching regulator control circuitry to the output drive circuitry to configure the voltage regulator in the switching regulator mode.

15. The method of claim 14, wherein the configuring step further comprises:

biasing the first sense terminal to a voltage in the first relationship to the fixed voltage.

16. The method of claim 14, wherein the configuring step further comprises:

connecting the first sense terminal to the external network including the inductor so that the second terminal is in the second relationship to the fixed voltage.

17. The method of claim 13, further comprising, in the switching regulator mode:

generating a pulse with a constant off-time from the switching regulator control circuitry responsive to an output of the error amplifier.

18. The method of claim 17, further comprising, in the switching regulator mode:

connecting second and third sense terminals of the voltage regulator across a resistor in series with the inductor;

comparing a voltage across the second and third sense terminals with a limit voltage; and

responsive to the compared voltage exceeding the limit voltage, disabling the generating step.

19. The method of claim 13, wherein the configuring step comprises:

writing configuration data into a configuration register.

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